



June 27, 2014

To: Executive Board

Subject: **Exercise of Contract Option – Procurement of Two (2) Proterra  
Version 2 Electric Buses and Charging Station at the Pomona Facility**

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### **Recommendation**

Authorize the Executive Director to exercise an option, negotiate final terms and conditions and enter into a Contract with Proterra LLC for the procurement of two (2) Version 2 40-foot electric buses and a fast charging station to be constructed at the Foothill Transit Pomona facility in the amount of Two Million Four Hundred Thousand Dollars (\$2,400,000.00), excluding sales tax.

### **Analysis**

In April 2009, Foothill Transit entered into a contract with Proterra LLC to procure three battery powered electric buses and fast charging equipment. This was a bold step in bringing the most innovative, technologically advanced mode of transportation available to Southern California. Foothill Transit was at the forefront of a new mode of public transit bus propulsion. In late September of 2009, the Executive Board approved the name “Ecoliner”, which was derived from the words “ecological” and “liner” to symbolize the agency’s commitment to sustainability and innovation. The electric bus was viewed as a solution to South Coast Air Quality Management District’s (SCAQMD) regional regulations and the forthcoming California Air Resources Board (CARB) Zero Emissions Bus (ZEB) purchase rule set for implementation in 2012.

In September 2010, three Ecoliners were placed in service on Line 291. The line serves Pomona and La Verne with stops at the Pomona Transit Center (PTC) where the Ecoliners charge during a short layover. The PTC is a major transit hub connecting commuters to ten other Foothill Transit lines and one Omnitrans line.

During the first year the first three coaches performed well with some minor issues related to fit and finish. The only propulsion related component of the bus that failed was the original specification transmission that did not meet the extreme conditions demanded of transit buses. A replacement transmission was identified and installed, which has performed well for the last two years. For the last three years, the first three Ecoliners have logged over 40,000 miles each and gone through an average of 7,469 charging cycles. In January 2014, a check on the batteries’ performance showed they have only lost two percent of battery life, meaning the batteries are almost new.

In 2010, Foothill Transit was awarded a Transit Investment in Greenhouse Gas and Energy Reduction (TIGGER II) grant in the amount of \$10.17 million dollars for the purchase of nine additional electric buses and charging station enhancements. This federal grant had a local matching requirement of at least ten percent.



At the April 26, 2013 Executive Board Meeting, a Sole Source procurement of nine electric buses with an option for 18 additional buses was approved by the Executive Board. In the ensuing time since the first three electric buses were procured, there was a reduction in the unit cost per bus as a result of the manufacturer modifying and streamlining its production processes. Since the current service demands of Line 291 mandate a peak demand of nine buses plus three spares for use in the event of a breakdown and to facilitate scheduled preventive maintenance, a decision was made to procure 12 buses that could be placed in service on other lines that serve PTC in addition to Line 291. The TIGGER II funding received in 2010, along with the 10 percent local match, supported the purchase of more than the nine buses originally envisioned in the grant application and on June 7, 2013 Federal Transit Administration (FTA) clearance to purchase up to 12 buses with the grant funds awarded.

By early 2014, these 12 new additional buses were received and accepted by Foothill Transit. Full deployment of the 12 buses was hampered by the difficulty in receiving new computer aided dispatch and automatic vehicle location (CAD/AVL) equipment from Xerox. Because of this, only eight of the 12 buses have been servicing Line 291. The remaining buses will be placed in service as the CAD/AVL equipment is received and installed in the coming weeks.

In May of this year, Proterra unveiled Version 2 (V2) of their Electric Bus. Proterra's V2 is a 40-foot electric bus that has several design improvements when compared to the BE35 - the original 35-foot bus. Proterra's engineering design team concentrated on three primary areas when developing the next generation V2: design for quality/assembly, design for maintainability, and lessons learned from experiences on the BE35.

Exercising an option to procure two V2 electric buses continues Foothill Transit's commitment to and support of transit bus innovation and new technology as a number of Foothill Transit local lines serve the PTC and have operating profiles that make them good candidates for Ecoliner service. Among these are Lines 197, 855, and 292. The two V2 electric buses to be procured will be placed into revenue service on these other local service routes that can utilize the existing fast-charging infrastructure in place at the Pomona Transit Center.

Currently, each Ecoliner enters service midroute and then proceeds northbound or southbound after first receiving a full charge at PTC. Based on recent electric bus test runs conducted by Planning and Maintenance and Vehicle Technology staff, the electric buses must have 100% charge prior to being released to Line 291 service if they are to begin service at the north or south ends of the route as is the current practice with our CNG coaches. In order to more efficiently operate Foothill Transit's fleet of electric buses, it is therefore recommended that a new fast charge station be constructed at Foothill Transit's Pomona operations and maintenance facility. The new fast charge



station will enable electric buses to charge the batteries to 100% capacity prior to them being deployed into service each morning.

**Budget Impact**

Funding for this project is included in Foothill Transit's FY 2015 Business Plan. The FY 2015 Capital Budget includes \$2.5 million allocated for electric bus purchase.

Sincerely,

A handwritten signature in blue ink, appearing to read "Roland M. Cordero".

Roland M. Cordero  
Director of Maintenance & Vehicle Technology

A handwritten signature in blue ink, appearing to read "Doran J. Barnes".

Doran J. Barnes  
Executive Director